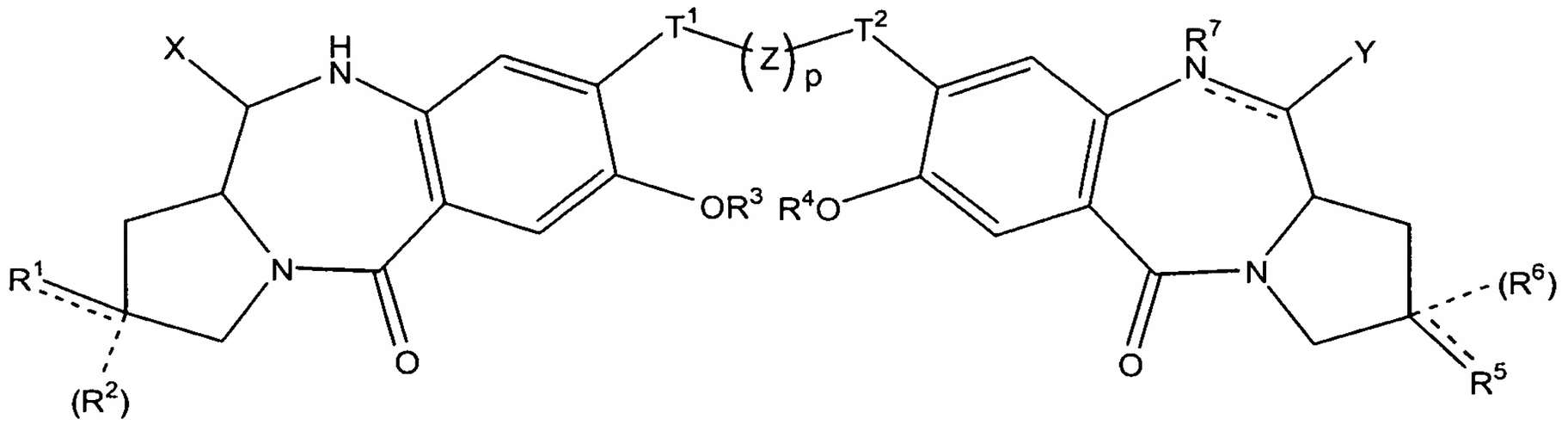
AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Original) A compound of Formula I:



(Formula I)

wherein X is a substituent selected from the group consisting of an OH, an ether, a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid-derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

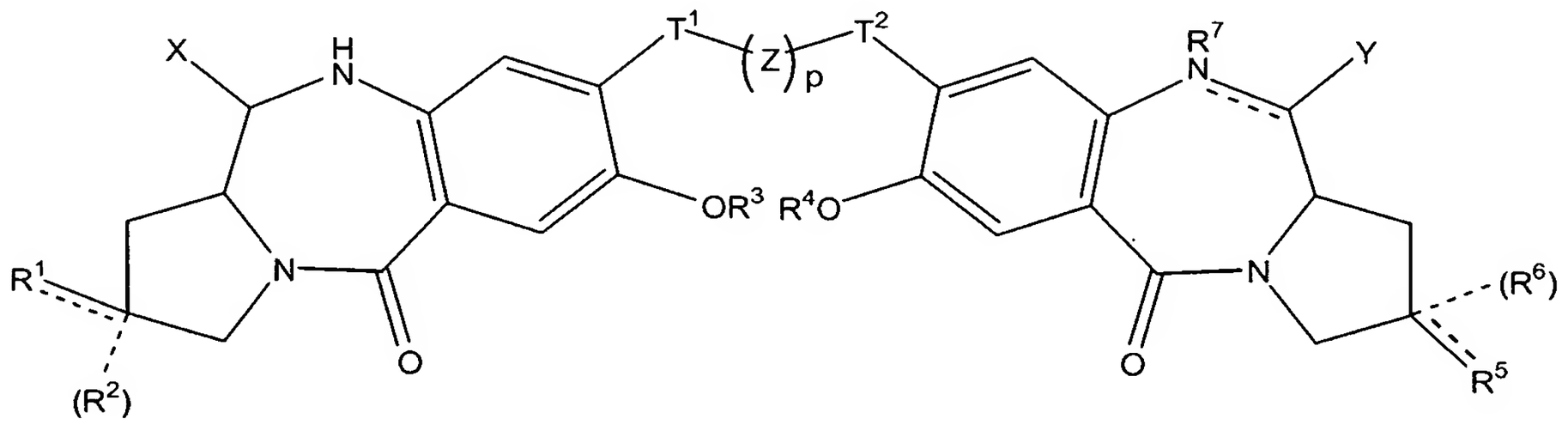
wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle; and

wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof,

wherein the compound is a solid.

2. (Original) A compound of Formula I:



(Formula I)

wherein X is a substituent selected from the group consisting of an OH, an ether, a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid-derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

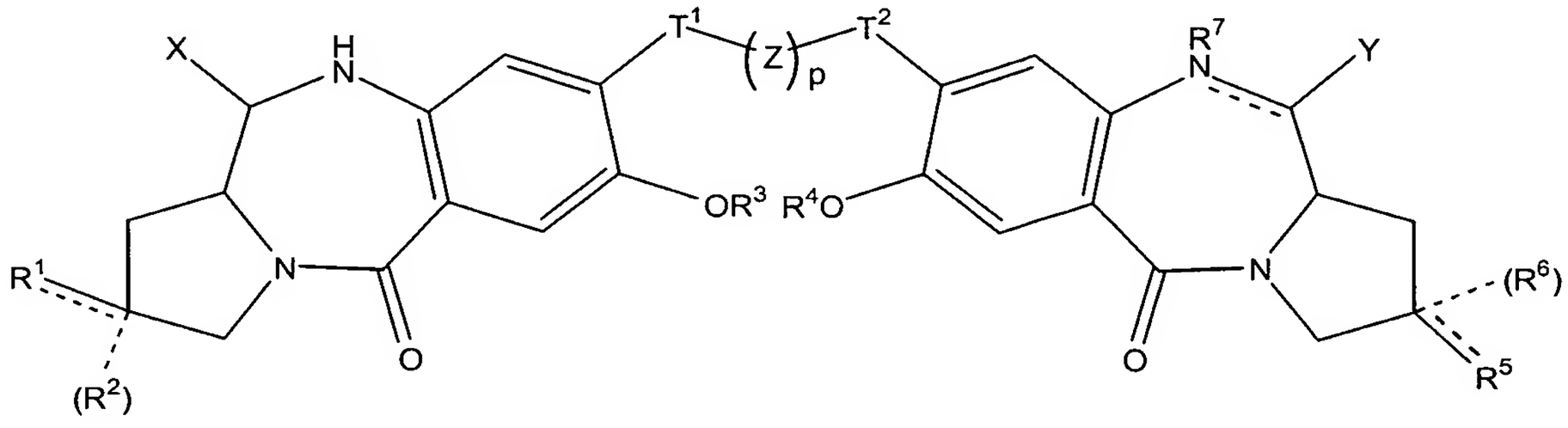
wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle; and

wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof;

provided that, when each of R^1 and R^5 is CH_2 attached by a double-bond, R^2 and R^6 are absent, R^3 and R^4 are CH_3, R^7 is H, T^1 and T^2 are both O, Z is CH_2, and p is 3, then X and Y are not both methoxy, both ethoxy, or both hydroxyl; and when each of R^1, R^2, R^5, and R^6 are H, then X and Y are not both sulfide or both ether.

3. (Original) A compound of Formula I:



(Formula I)

wherein X is a substituent selected from the group consisting of a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid-derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

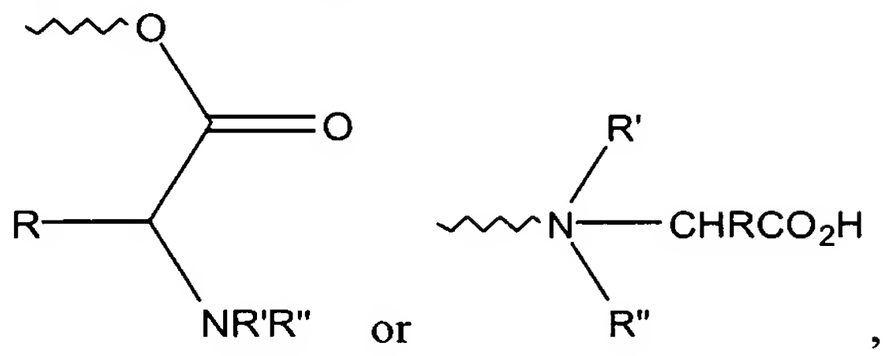
wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of a C_1-C_8 alkyl, an aryl, and a heterocycle; and

wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof.

4. (Currently Amended) The compound of claim 1 ~~any of claims 1-3~~, wherein X is selected from the group consisting of: ~~the~~

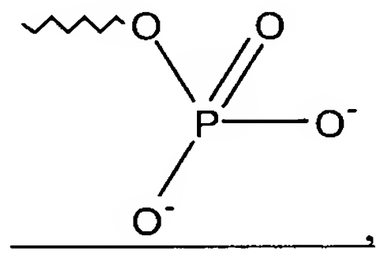
(a) an amino acid-derived group ~~has~~ having the structure:



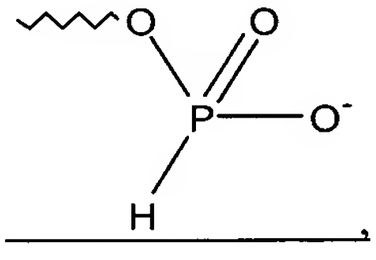
wherein each of R, R', and R" is independently selected from the group consisting of H, a C_1-C_8 alkyl optionally substituted with an amine or a carboxylate; an aryl; an aryl alkyl; and a heterocycle,

(b) a phosphoric group, a phosphorus group, a phosphonic acid group, or a phosphonous acid group having the structure:

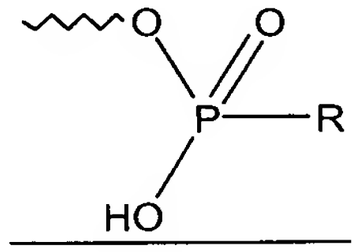
(i)



(ii)

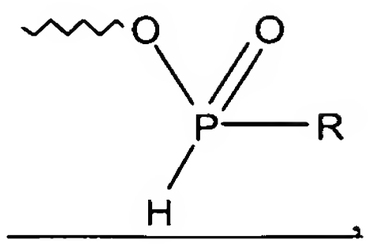


(iii)



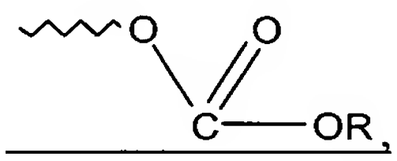
wherein R is C_1-C_8 alkyl optionally substituted with an aryl, a heterocycle, an alkoxy, a halo, an amine, or carboxylate; an aryl; or a heterocycle, or

(iv)

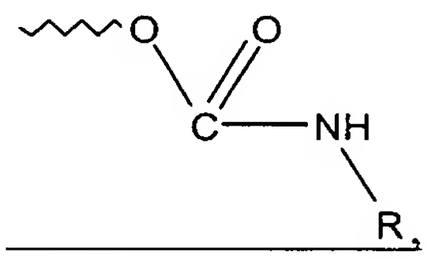


wherein R is C_1-C_8 alkyl optionally substituted with an aryl, a heterocycle, an alkoxy, a halo, an amine, or carboxylate; an aryl; or a heterocycle,

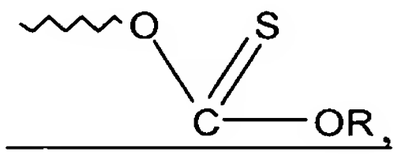
(c)



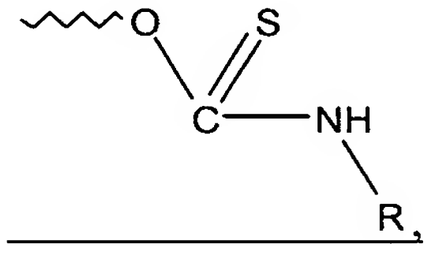
(d)



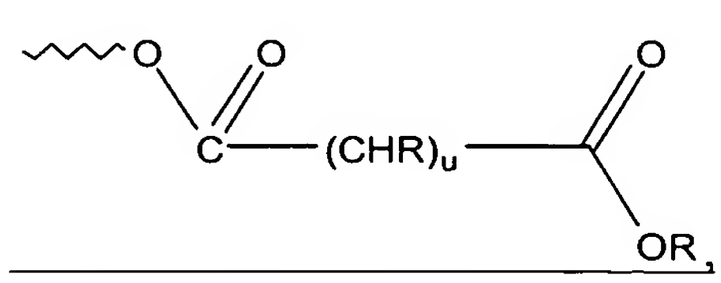
(e)



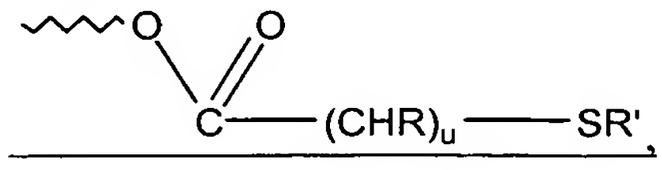
(f)



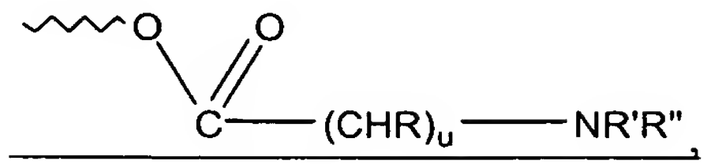
(g)



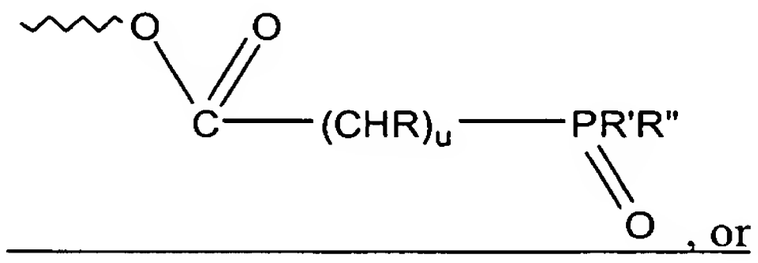
(h)



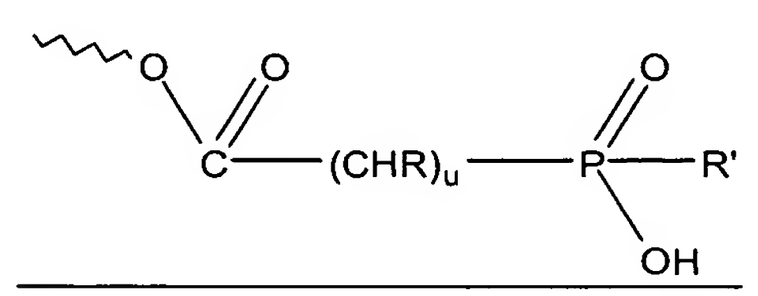
(i)



(j)

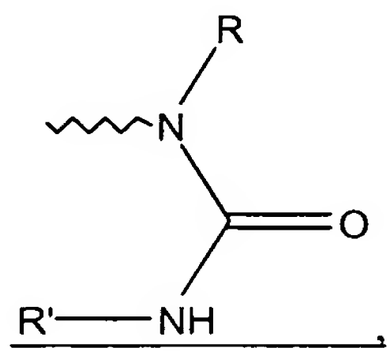


(k)



wherein, for each of structures (c) through (k), each of R, R', and R" is independently selected from the group consisting of H; C_1-C_8 alkyl optionally substituted with an aryl, a heterocycle, an alkoxy, a halo, an amine, or carboxylate; an aryl; and a heterocycle, and wherein u is 1 to about 16;

(l) an amide having the structure:



wherein each of R and R' is independently H; C_1-C_8 alkyl optionally substituted with an aryl, a heterocycle, an alkoxy, a halo, an amine, or carboxylate; an aryl; or a heterocycle, and

(m) a monohydroxylic or a polyhydroxylic group.

5. - 15. (Canceled).

16. (Currently Amended) The compound of claim 1 ~~any of claims 1-15~~, wherein each of T^1 and T^2 is O, p is 3 and Z is $-CH_2-$.

17. (Currently Amended) The compound of claim 1 ~~any of claims 1-16~~, wherein R^1 and R^2 are not both H.

18. (Currently Amended) The compound of claim 1 ~~any of claims 1-17~~, wherein each of R^3 and R^4 is a C_1-C_8 alkyl optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, H, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl.

19. (Canceled).

20. (Canceled).

21. (Currently Amended) The compound of claim 1 ~~any of claims 1-19~~, wherein R^8 is H.

22. (Canceled).

23. (Canceled).

24. (Currently Amended) The compound of claim 1 ~~any of claims 1, 2, 4-10, or 16-23~~, wherein (a) each of X and Y is OH, (b) X is OH and Y is H, or (c) X is OR and R is an alkyl.

25. (Canceled).

26. (Canceled).

27. (Currently Amended) The compound of claim 24 [[26]], wherein X is OR and R is a C_1-C_8 alkyl.

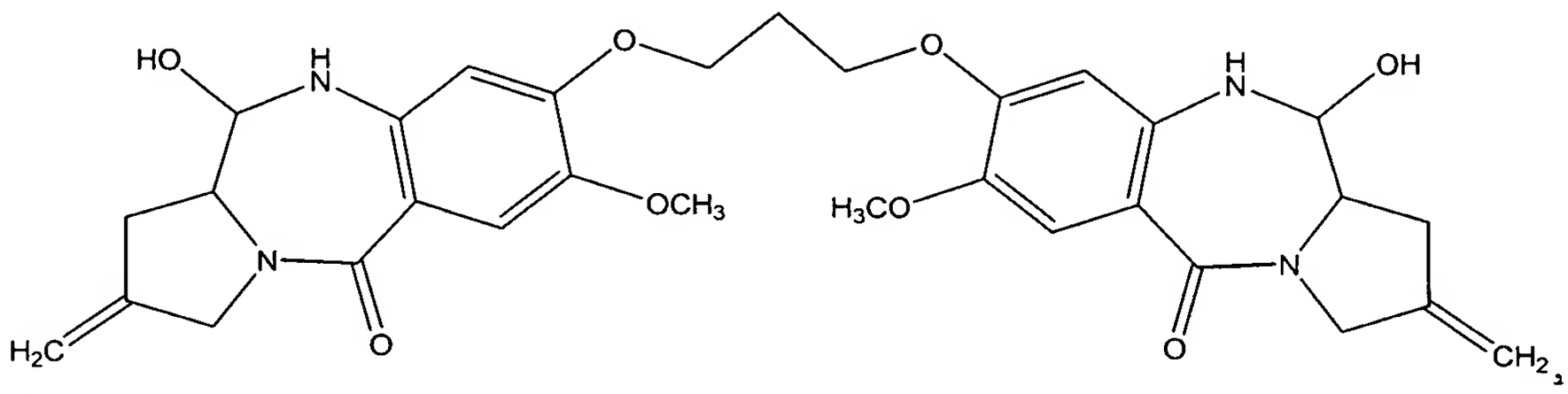
28. (Canceled).

29. (Canceled).

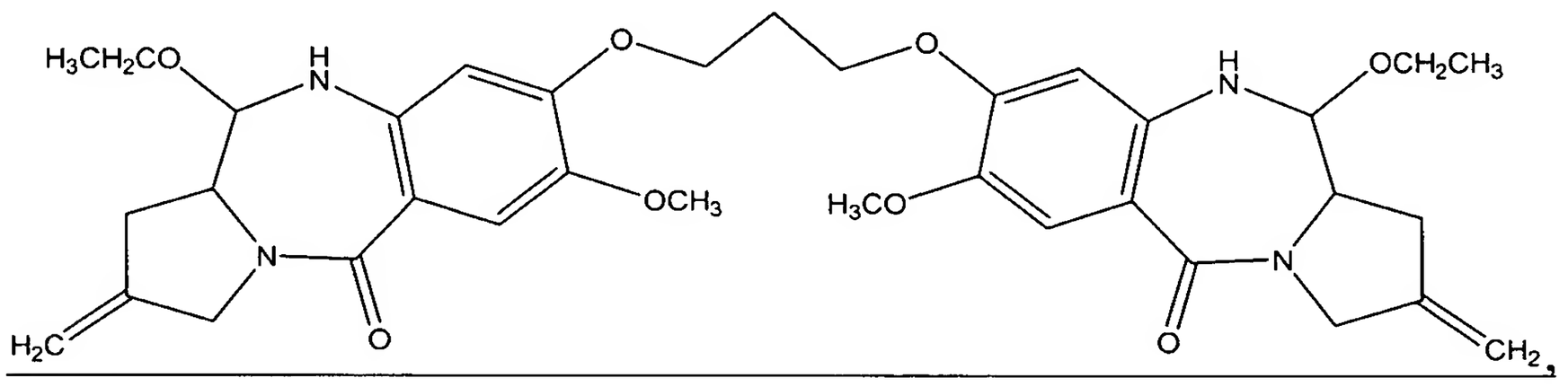
30. (Currently Amended) The compound of claim 1 ~~any of claims 1-23 and 26-29~~, wherein Y is the same as X.

31. (Currently Amended) The compound of claim 1, wherein the compound is selected from the group consisting of:

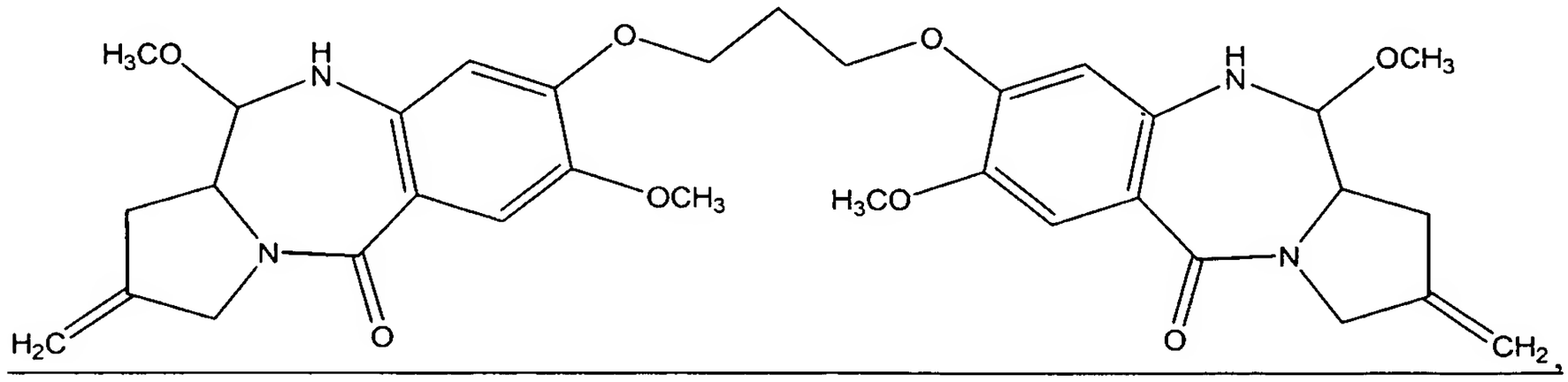
(a)



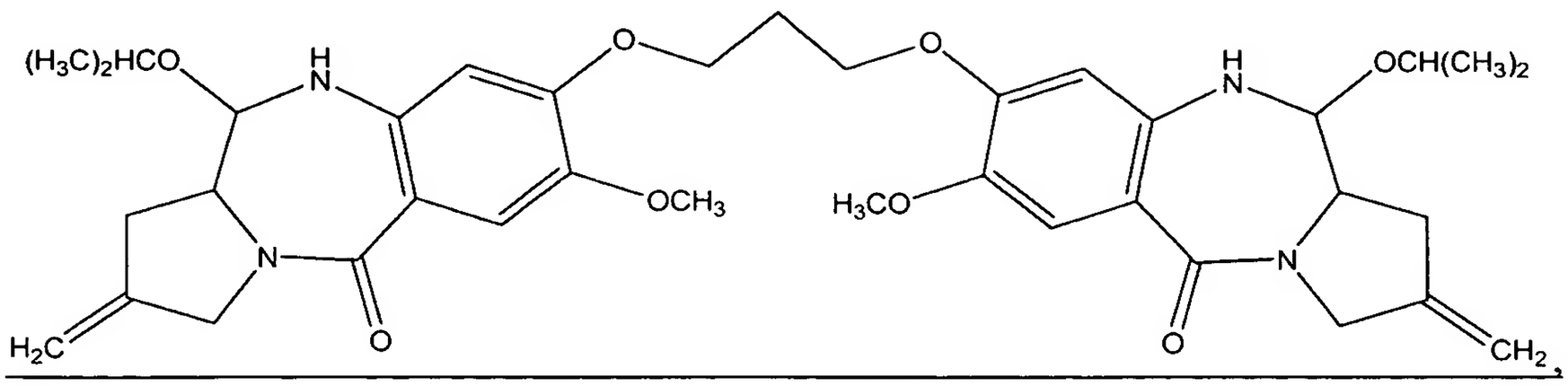
(b)



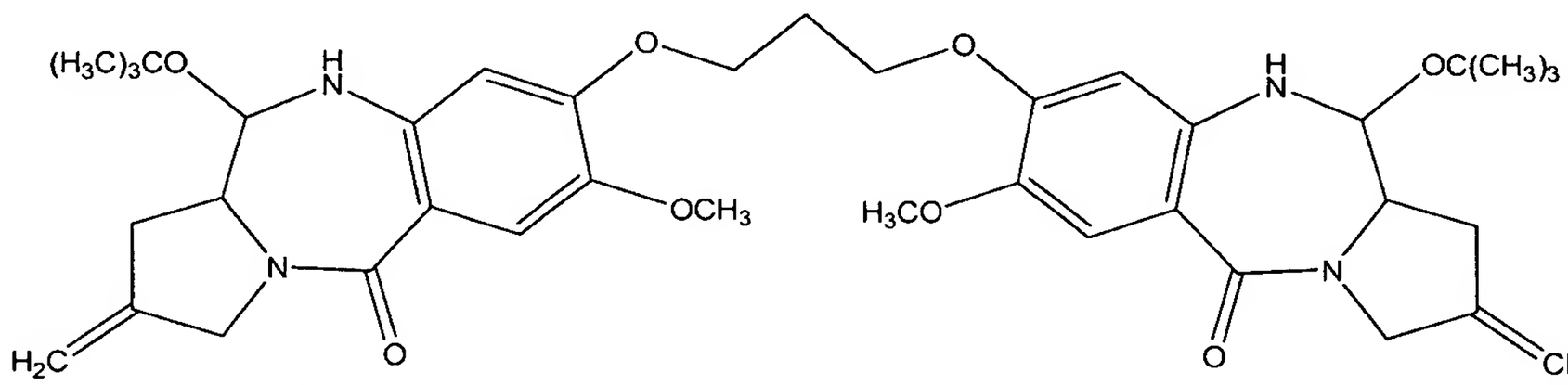
(c)



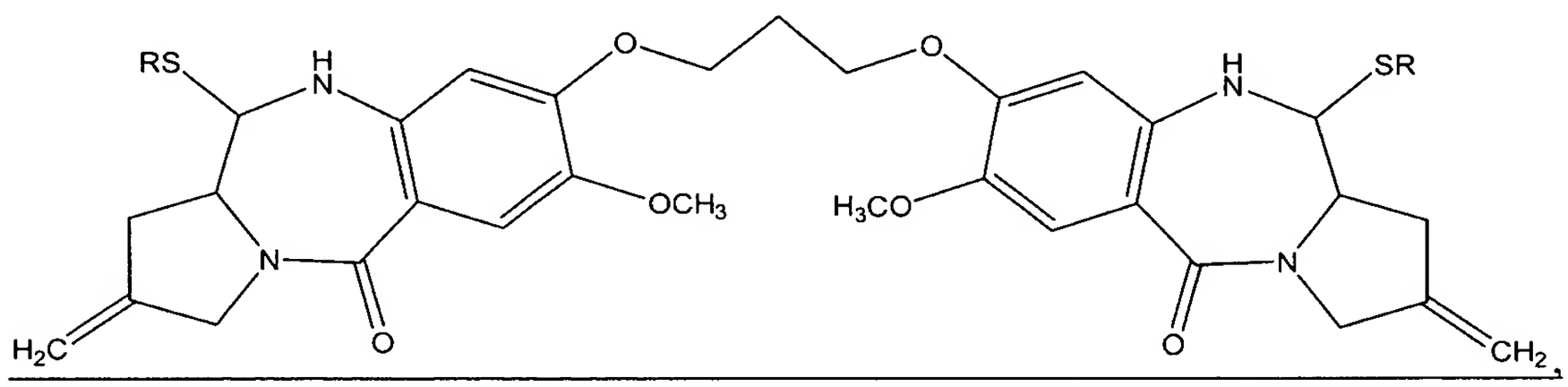
(d)



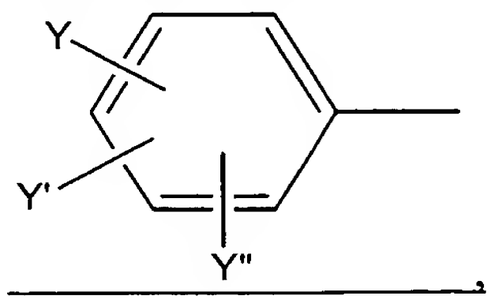
(e)



(f)



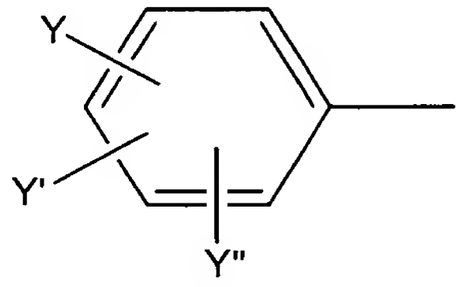
wherein, for structure (f), the following applies: R is an alkyl; a C_2-C_{24} alkenyl; a cyclohexylalkyl; a C_3-C_{26} alkoxyacetyl; a naphthalenalkyl optionally substituted with methyl or halogen; a phenyl (C_3-C_{26} alkenyl), wherein the phenyl is optionally substituted with methyl or halogen; a cinnamyl; a pyridinealkyl optionally substituted with methyl or halogen; a dihydropyridine alkyl optionally substituted with C_1-C_{24} alkyl; a thiophenealkyl optionally substituted with methyl or halogen; an aryl; an allyl; a furanalkyl optionally substituted with methyl or halogen; cysteine; glutathione; or a group of structure



wherein each of Y and Y' is independently hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy, or halogen, or Y and Y' together form 3,4-methylenedioxy, and Y" is hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy or halogen.

32. – 36. (Canceled).

37. (Currently Amended) The compound of claim 31 [[36]], wherein the compound is of structure (f) and R is

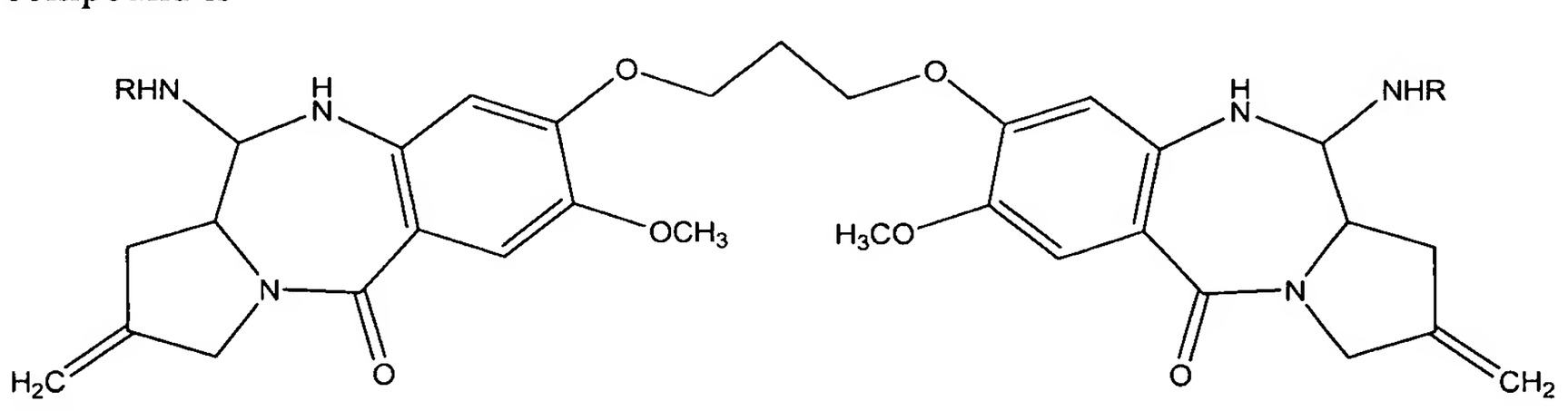


and wherein each of Y and Y' is independently hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, or halogen, or Y and Y' together form 3,4-methylenedioxy, and Y" is hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy or halogen.

38. (Canceled).

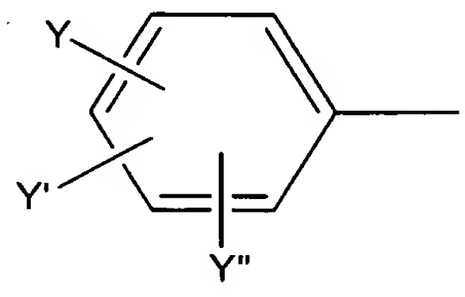
39. (Canceled).

40. (Currently Amended) The compound of claim 1 ~~any of claims 1–3~~, wherein the compound is



wherein R is an alkyl; a cycloalkyl; a C_2-C_{24} alkenyl; a cyclohexylalkyl; a C_3-C_{26} alkoxyacetyl; a naphthalenalkyl optionally substituted with methyl or halogen; phenyl (C_2-C_{24} alkenyl), wherein the phenyl is optionally substituted with methyl or halogen; cinnamyl; pyridinealkyl optionally substituted with methyl or halogen; dihydropyridine alkyl optionally

substituted with C_1-C_{24} alkyl; thiophenealkyl optionally substituted with methyl or halogen; an aryl; an allyl; furanalkyl optionally substituted with methyl or halogen; or a group of structure



,

wherein each of Y and Y' is independently hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy, or halogen, or Y and Y' together form 3,4-methylenedioxy, and Y" is hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy or halogen.

41. – 47. (Canceled).

48. (Currently Amended) A pharmaceutical composition comprising a compound of claim 1 ~~any of claims 1-47~~ and a pharmaceutically acceptable carrier.

49. (Currently Amended) A method of inhibiting the growth of a cell, which method comprises administering to the cell in an amount effective to inhibit the growth of the cell a compound of claim 1 ~~any of claims 1-47~~.

50. (Currently Amended) The method of claim 49, wherein the cell is in a host and the host is afflicted with a disease caused by hyperproliferation and the method effectively treats the disease.

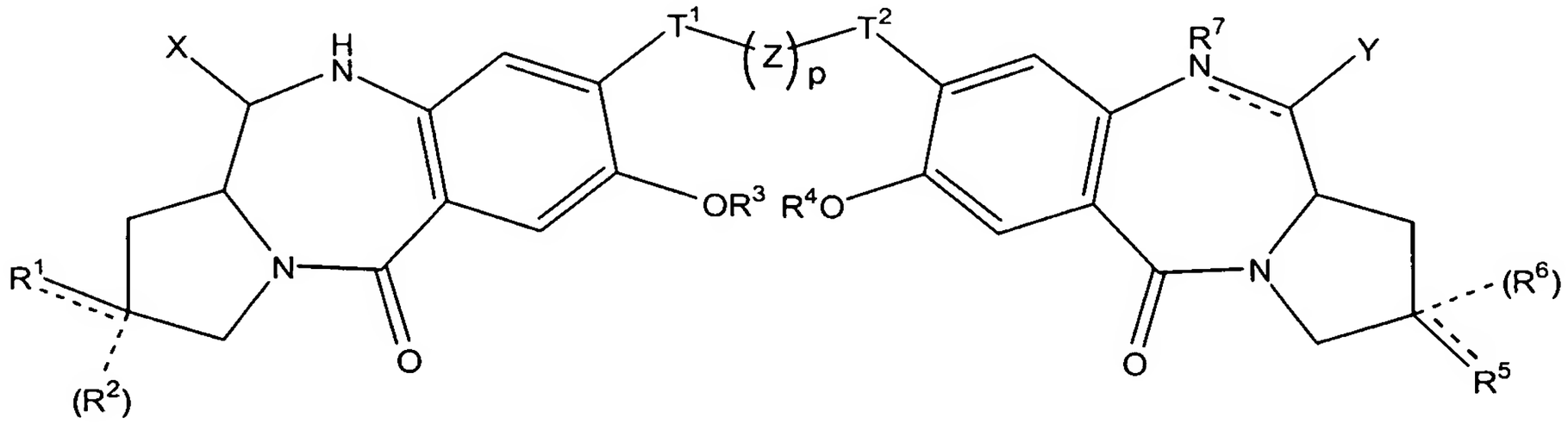
51. – 56. (Canceled).

57. (Currently Amended) A method of treating a viral, parasitic, or bacterial infection of a cell, which method comprises administering to the cell in an amount effective to treat a viral, parasitic, or bacterial infection a compound of claim 1 ~~any of claims 1-47~~.

58. (Currently Amended) The method claim 57, wherein the cell is in a host and the host is afflicted with a disease caused by the viral, parasitic, or bacterial infection and the method effectively treats the disease.

59. – 61. (Canceled).

62. (Currently Amended) A method of preparing [[a]] the compound of claim 1, wherein the compound is of Formula I



(Formula I)

wherein X is OH,

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is OH;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the

bond is a single bond, R^1 and R^2 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle; and

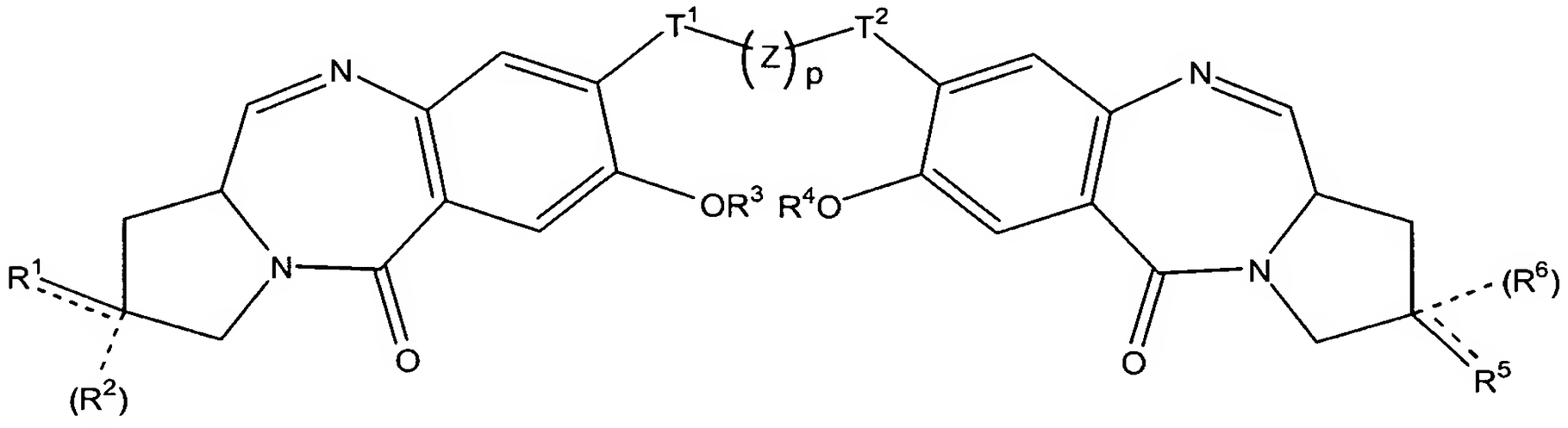
wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof; and

wherein the compound is a solid;

which method comprises:

(a) providing a compound of Formula II:



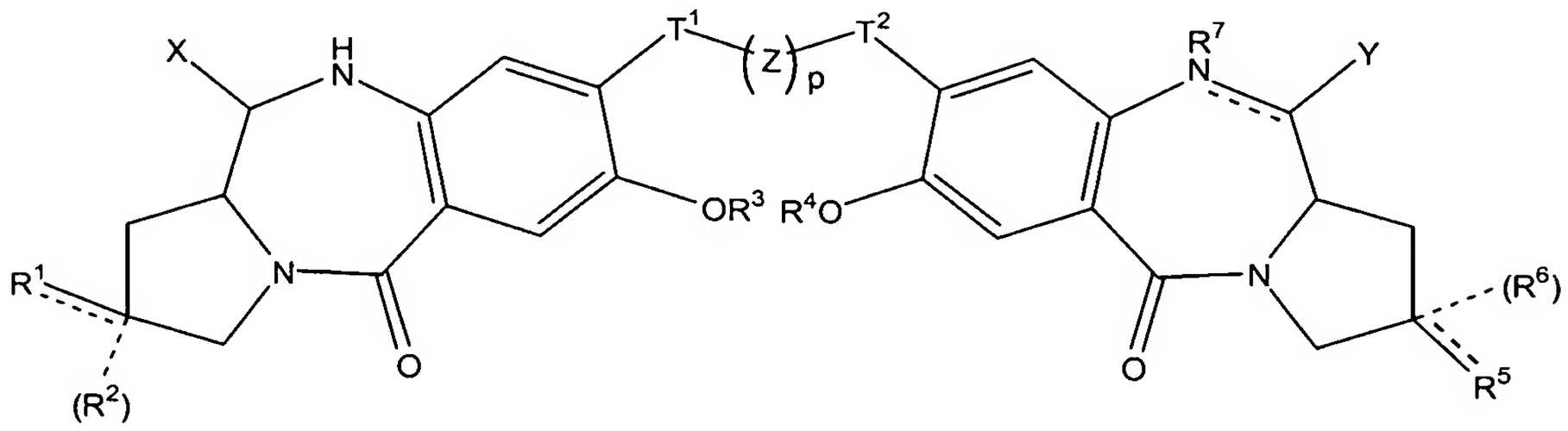
(Formula II)

wherein the definitions of R^1, R^2, R^3, R^4, R^5, R^6, T^1, T^2, Z, and p are the same as those for Formula I; and

(b) contacting the compound of Formula II with water, whereby the solid compound of Formula I is formed.

63. – 67. (Canceled).

68. (Currently Amended) A method of preparing [[a]] the compound of claim 1, wherein the compound is of Formula I



(Formula I)

wherein X is a substituent selected from the group consisting of an ether, a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid- derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

Swherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, H, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle; and

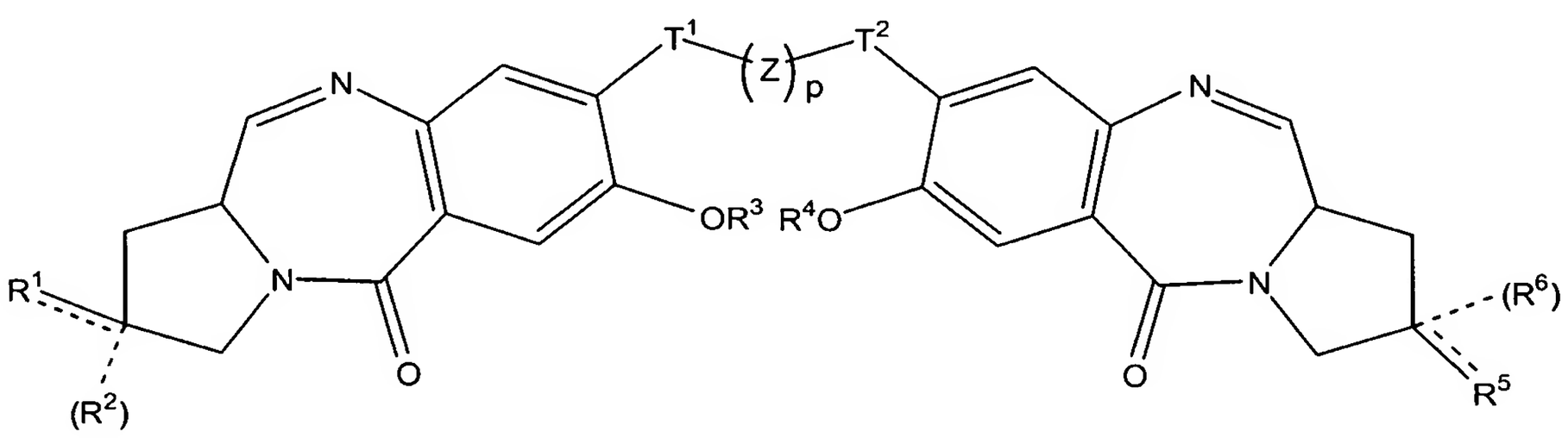
wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof; and

wherein the compound is a solid;[[.]]

which method comprises:

(a) providing a compound of Formula II:



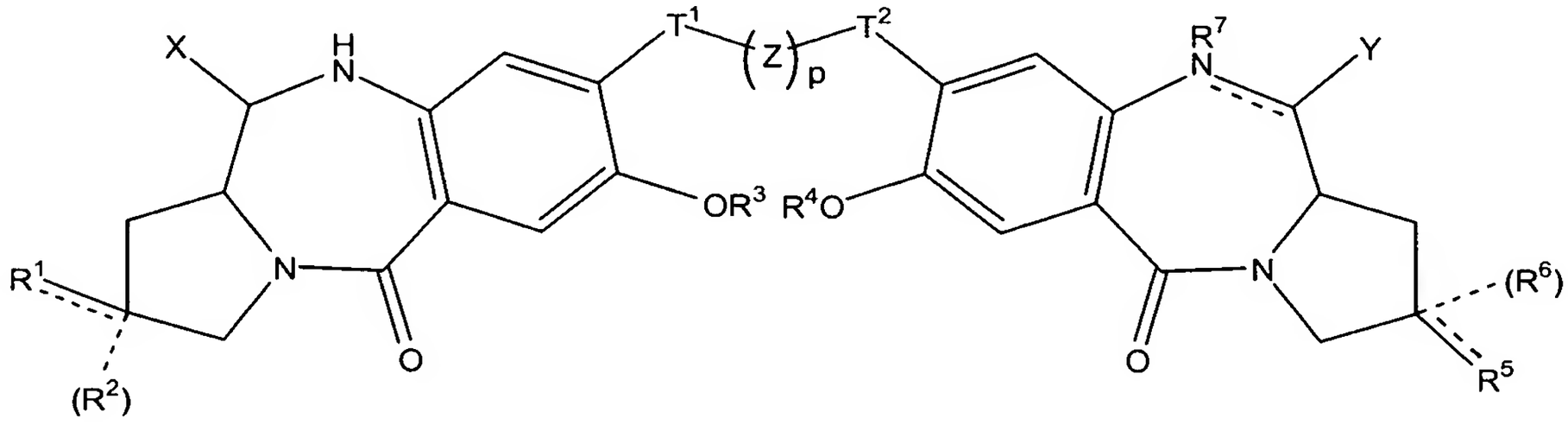
(Formula II)

wherein the definitions of R^1, R^2, R^3, R^4, R^5, R^6, T^1, T^2, Z, and p are the same as those for Formula I; and

(b) combining the compound of Formula II with a nucleophilic organic reactant, wherein the nucleophilic part of the nucleophilic organic reactant provides X,

whereby the solid compound of Formula I is formed.

69. (Currently Amended) A method of preparing [[a]] <u>the</u> compound of <u>claim 2, wherein the compound is of</u> Formula I



(Formula I)

wherein X is a substituent selected from the group consisting of an OH, an ether, a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid-derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle; and

wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of H, C_1-C_8 alkyl, aryl, and a heterocycle;

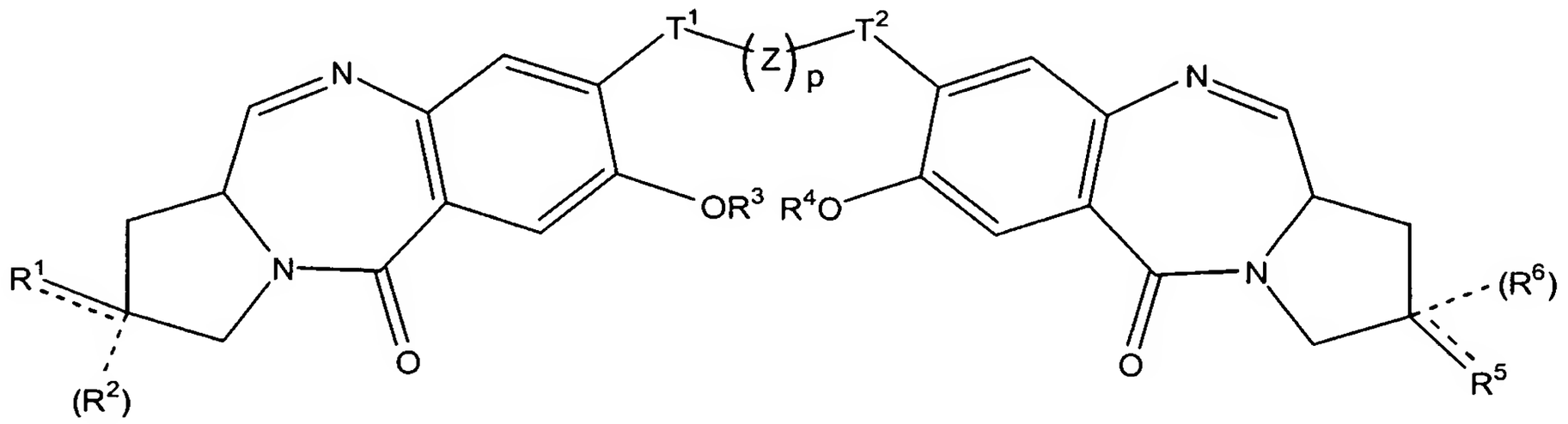
or a salt thereof; and

provided that, when each of R^1 and R^5 is CH_2 attached by a double-bond, R^2 and R^6 are absent, R^3 and R^4 are CH_3, R^7 is H, T^1 and T^2 are both O, Z is CH_2, and p is 3, then X and

Y are not both methoxy, both ethoxy, or both hydroxyl; and when each of R^1, R^2, R^5, and R^6 are H, then X and Y are not both sulfide or both ether;

which method comprises:

(a) providing a compound of Formula II:



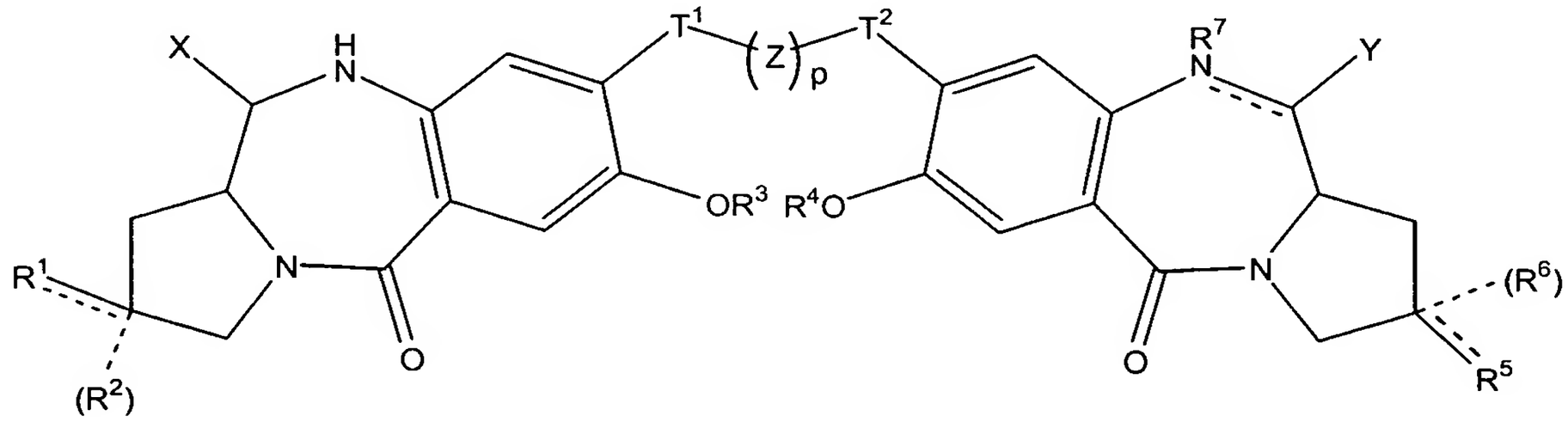
(Formula II)

wherein the definitions of R^1, R^2, R^3, R^4, R^5, R^6, T^1, T^2, Z, and p are the same as those for Formula I; and

(b) combining the compound of Formula II with a nucleophilic organic reactant other than methanol or ethanol, wherein the nucleophilic part of the nucleophilic organic reactant provides X,

whereby the solid compound of Formula I is formed.

70. (Currently Amended) A method of preparing [[a]] the compound of claim 3, wherein the compound is of Formula I



(Formula I)

wherein X is a substituent selected from the group consisting of a silyl ether, a trialkyl silyl ether, an ester, a carbonate, a carbamate, a thiocarbamate, a cyclic carbamate, a cyclic thiocarbamate, an acetate, SH, a sulfide, a sulphoxide, a sulphone, a sulphite, a bisulphite, a

sulphonamide, an amine, an amide, an azido, a cyano, a halo, a triphenylphosphonium, a silyl, a trialkyl silyl, an amino acid-derived group, and a phosphorus-containing group;

wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^7 is absent and Y is H, and, when the bond is a single bond, R^7 is H and Y is a substituent selected from the group defined for X, wherein Y is optionally the same as X;

wherein each of T^1 and T^2 is independently O, S, or NR^8;

wherein Z is a divalent radical of an alkane, an alkene, or an alkyne, any of which optionally contains a heteroatom or carbonyl and any of which is substituted or unsubstituted;

wherein p is an integer that is greater than or equal to 2;

wherein each of R^3, R^4, and R^8 is independently a hydrogen; a C_1-C_{24} alkyl, C_2-C_{24} alkenyl, or C_2 -C_{24} alkynyl, optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl;

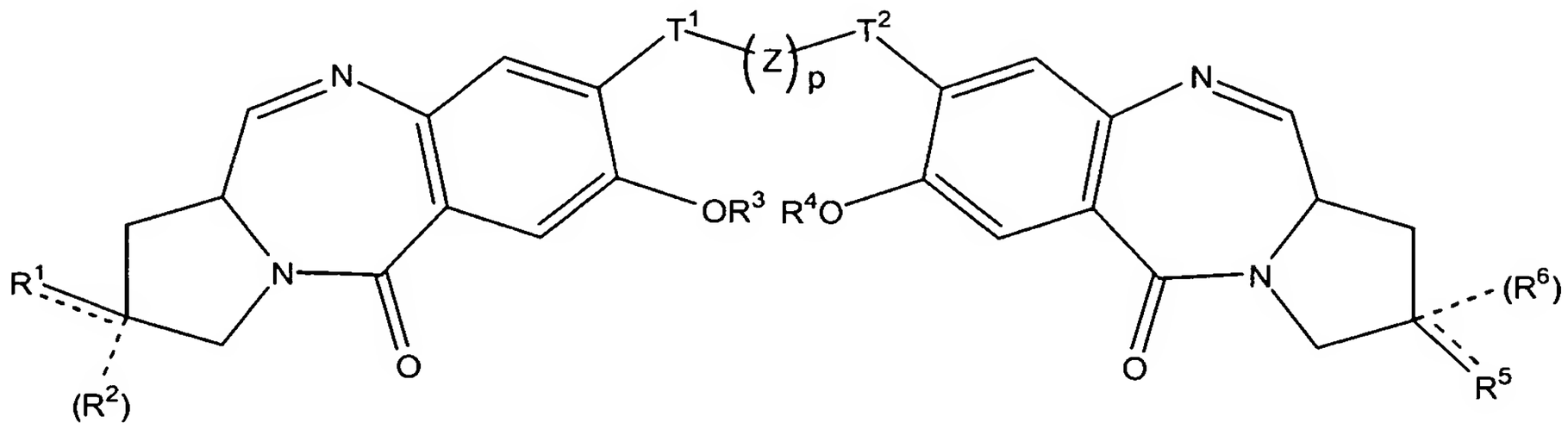
wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^2 is absent and R^1 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^1 and R^2 are independently selected from the group consisting of C_1-C_8 alkyl, aryl, and a heterocycle; and

wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond or a double bond, wherein, when the bond is a double bond, R^6 is absent and R^5 is a divalent radical derived from an alkane, an aromatic hydrocarbon, or a heterocycle, and when the bond is a single bond, R^5 and R^6 are independently selected from the group consisting of C_1-C_8 alkyl, aryl, and a heterocycle;

or a salt thereof; and

which method comprises:

(a) providing a compound of Formula II:



(Formula II)

wherein the definitions of R^1, R^2, R^3, R^4, R^5, R^6, T^1, T^2, Z, and p are the same as those for Formula I; and

(b) combining the compound of Formula II with a nucleophilic organic reactant, wherein the nucleophilic part of the nucleophilic organic reactant provides X, and

whereby the solid compound of Formula I is formed.

71. – 80. (Canceled).

81. (New) The compound of claim 1, wherein X is selected from the group consisting of OR^9, SR^{10}, or an amine; wherein each of R^9 and R^{10} is independently a hydrogen, an alkyl, or a substituted or unsubstituted phenyl; wherein the bond between the carbon to which Y is attached and the N of NR^7 to which the carbon is attached is a single bond; wherein Y is the same as X; wherein each of T^1 and T^2 is O; wherein Z is a divalent radical of an alkane; wherein p is 3; wherein each of R^3 and R^4 is independently a hydrogen or a C_1 –C_{24} alkyl; wherein the bond between R^1 and the carbon to which R^1 is attached is a single bond; and wherein the bond between R^5 and the carbon to which R^5 is attached is a single bond.

82. (New) The compound of claim 2, wherein each of T^1 and T^2 is O, p is 3 and Z is -CH_2-.

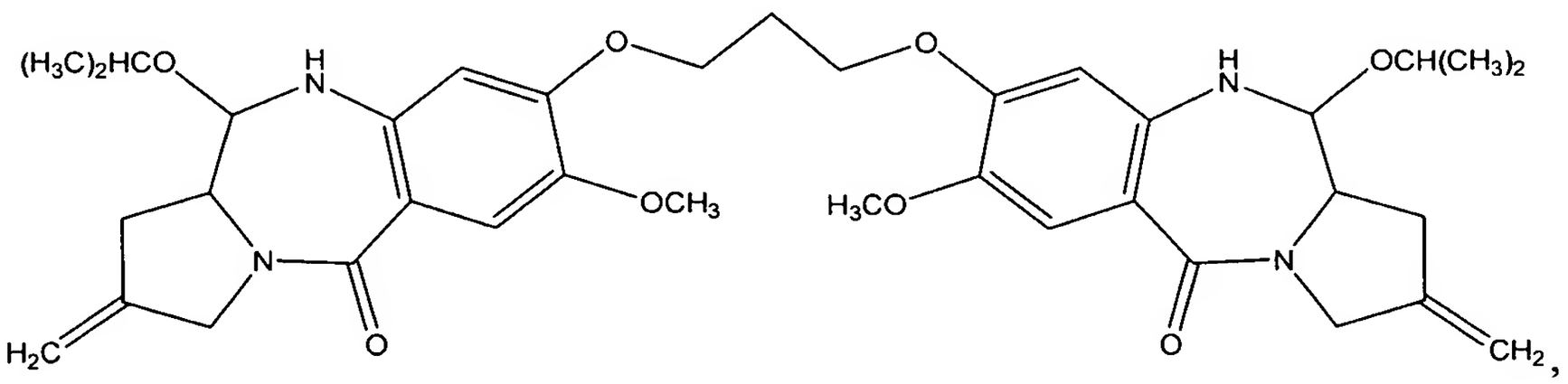
83. (New) The compound of claim 2, wherein each of R^3 and R^4 is a C_1-C_4 alkyl optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl.

84. (New) The compound of claim 2, wherein (a) each of X and Y is OH, (b) X is OH and Y is H, or (c) X is OR and R is an alkyl.

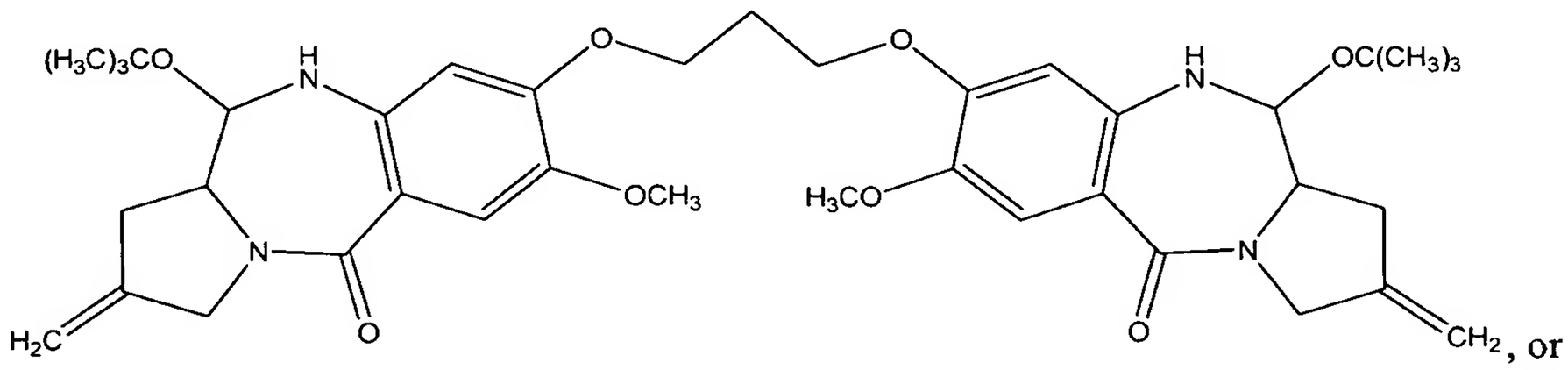
85. (New) The compound of claim 83, wherein X is OR and R is methyl, ethyl, isopropyl, or *t*-butyl.

86. (New) The compound of claim 2, wherein the compound is selected from the group consisting of:

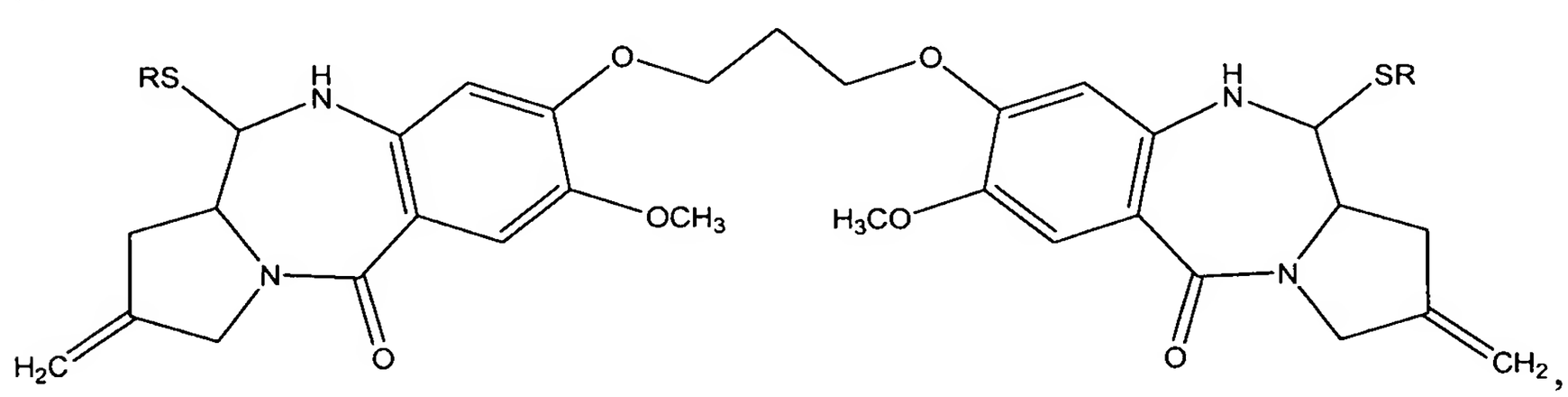
(a)



(b)

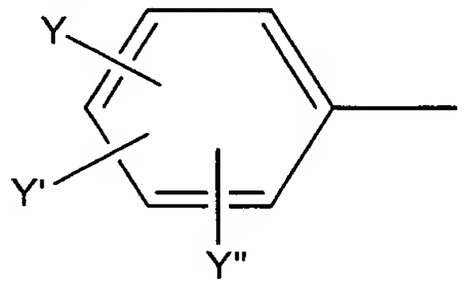


(c)



wherein, for structure (c), the following applies: R is an alkyl; a C_2-C_{24} alkenyl; a cyclohexylalkyl; a C_3-C_{26} alkoxyacetyl; a naphthalenalkyl optionally substituted with methyl

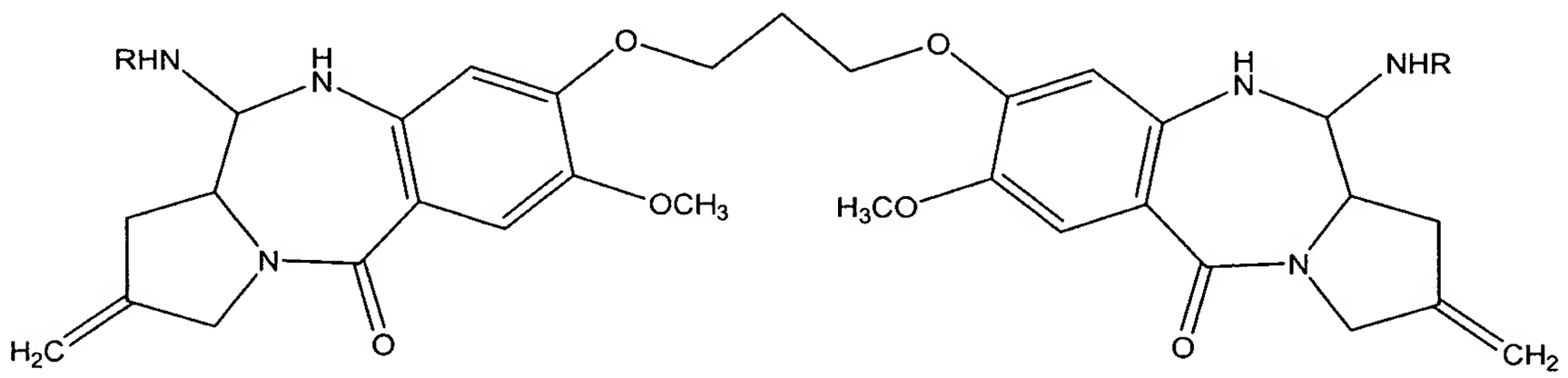
or halogen; a phenyl (C_3-C_{26} alkenyl), wherein the phenyl is optionally substituted with methyl or halogen; a cinnamyl; a pyridinealkyl optionally substituted with methyl or halogen; a dihydropyridine alkyl optionally substituted with C_1-C_{24} alkyl; a thiophenealkyl optionally substituted with methyl or halogen; an aryl; an allyl; a furanalkyl optionally substituted with methyl or halogen; cysteine; glutathione; or a group of structure



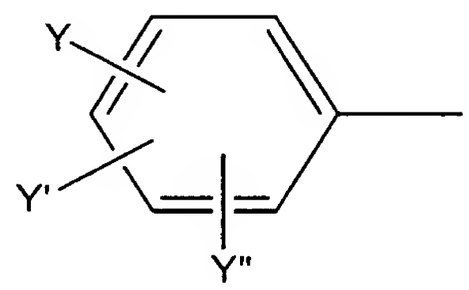
,

wherein each of Y and Y' is independently hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy, or halogen, or Y and Y' together form 3,4-methylenedioxy, and Y" is hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy or halogen.

87. (New) The compound of claim 2, wherein the compound is



wherein R is an alkyl; a cycloalkyl; a C_2-C_{24} alkenyl; a cyclohexylalkyl; a C_3-C_{26} alkoxyacetyl; a naphthalenalkyl optionally substituted with methyl or halogen; phenyl (C_2-C_{24} alkenyl), wherein the phenyl is optionally substituted with methyl or halogen; cinnamyl; pyridinealkyl optionally substituted with methyl or halogen; dihydropyridine alkyl optionally substituted with C_1-C_{24} alkyl; thiophenealkyl optionally substituted with methyl or halogen; an aryl; an allyl; furanalkyl optionally substituted with methyl or halogen; or a group of structure



,

wherein each of Y and Y' is independently hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy, or halogen, or Y and Y' together form 3,4-methylenedioxy, and Y" is hydrogen, C_1-C_{24} alkyl, C_1-C_{24} alkoxy or halogen.

88. (New) A pharmaceutical composition comprising a compound of claim 2 and a pharmaceutically acceptable carrier.

89. (New) A method of inhibiting the growth of a cell, which method comprises administering to the cell in an amount effective to inhibit the growth of the cell a compound of claim 2.

90. (New) A method of treating a viral, parasitic, or bacterial infection of a cell, which method comprises administering to the cell in an amount effective to treat a viral, parasitic, or bacterial infection a compound of claim 2.

91. (New) The compound of claim 3, wherein each of T^1 and T^2 is O, p is 3 and Z is -CH_2-.

92. (New) The compound of claim 3, wherein each of R^3 and R^4 is a C_1-C_4 alkyl optionally substituted with a group selected from the group consisting of an aryl, a heterocycle, and an amine; or an aryl optionally substituted with an alkyl, an aryl, an alkoxy, a halo, an amine, a hydroxy, or a trifluoromethyl.

93. (New) A pharmaceutical composition comprising a compound of claim 3 and a pharmaceutically acceptable carrier.

94. (New) A method of inhibiting the growth of a cell, which method comprises administering to the cell in an amount effective to inhibit the growth of the cell a compound of claim 3.

95. (New) A method of treating a viral, parasitic, or bacterial infection of a cell, which method comprises administering to the cell in an amount effective to treat a viral, parasitic, or bacterial infection a compound of claim 3.